

WHAT IS CLAIMED IS:

1. A microchip comprising;
a plurality of supply units capable of supplying a plurality of fluids;
a reaction chamber for receiving said plurality of fluids for reaction therein; and
a flow pass, connected between said plurality of supply units and said reaction
5 chamber, for said plurality of fluids to flow to said reaction chamber;
wherein a configuration of said flow pass determines a sequential relationship for
each of said plurality of fluids supplied from each of said plurality of supply units to reach
said reaction chamber.
2. A microchip according to Claim 1, wherein said configuration is selected from
the group consisting of:
a dimension of a cross section of said flow pass;
a shape of a cross section of said flow pass;
a length of said flow pass; and
a relative position of each of said plurality of supply units with respect to said flow
pass.
3. A microchip according to Claim 1, further comprising a suction port, disposed
proximate said reaction chamber, for said plurality of fluids to be discharged from said
microchip after reaction.
4. A microchip according to Claim 1, further comprising a suction unit for
suctioning each of said plurality of fluids supplied from each of said plurality of supply units
towards said reaction chamber.
5. A microchip according to Claim 4, wherein said suction unit is adapted to
simultaneously suction said each of said plurality of fluids towards said reaction chamber.
6. A microchip according to Claim 4, wherein said suction unit is a micro pump.

7. A microchip according to Claim 1, wherein said flow pass comprises a plurality of branch flow passes respectively connected to said plurality of supply units, wherein a configuration of each of said plurality of branch flow passes determines a sequential relationship for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

8. A microchip according to Claim 7, wherein said configuration of said plurality of branch flow passes is selected from the group consisting of:

- a dimension of a cross section of said branch flow pass;
- a shape of a cross section of said branch flow pass; and
- a length of said branch flow pass.

9. A microchip according to Claim 7, further comprising a micro pump disposed in one of said plurality of branch flow passes.

10. A microchip according to Claim 7, further comprising a plurality of micro pumps, respectively disposed in each of said plurality of branch flow passes.

11. A microchip according to Claim 7, further comprising a valve disposed in one of said plurality of branch flow passes.

12. A microchip according to Claim 7, further comprising a plurality of micro valves, respectively disposed between each of said plurality of branch flow passes and said reaction chamber.

13. A microchip comprising;
a common flow pass;
a plurality of supply units, sequentially provided on said common flow pass and capable of supplying a plurality of fluids; and
a reaction chamber for receiving said plurality of fluids for reaction therein;

wherein an arrangement order of said plurality of supply units on said common flow pass determines a sequential order for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

14. A microchip according to Claim 13, further comprising a flow controller disposed between one of said plurality of supply units and said common flow pass.

15. A microchip according to Claim 14, wherein said flow controller comprises a micro valve.

16. A microchip according to Claim 14, wherein said flow controller comprises a micro pump.

17. A microchip comprising;
a plurality of supply units, capable of supplying a plurality of fluids;
a reaction chamber for receiving said plurality of fluids for reaction therein;
a plurality of flow passes respectively connecting each of said plurality of supply units to said reaction chamber;

wherein a configuration of each of said plurality of flow passes determines a sequential order for each of said plurality of fluids supplied from each of said plurality of supply units to reach said reaction chamber.

18. A microchip according to Claim 17, further comprising a flow controller for controlling a flow of at least one of said plurality of fluids to said reaction chamber.

19. A microchip according to Claim 17, wherein said flow controller comprises a micro valve.

20. A microchip according to Claim 17, wherein said flow controller comprises a micro pump.

21. A microchip according to Claim 17, wherein said flow controller is disposed in one of said plurality of flow passes.

22. A microchip, comprising:

a plurality of supply units capable of supplying a plurality of fluids for reaction;

a reaction chamber for containing said reaction;

a plurality of flow passes respectively connecting said plurality of supply units to said

5 reaction chamber;

wherein said plurality of fluids reach said reaction chamber in a sequence based on the respective dimensions of each of said plurality of flow passes.

23. A microchip according to Claim 22, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative distances between each of said plurality of supply units and said reaction chamber.

24. A microchip according to Claim 22, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative lengths of each of said plurality of flow passes connecting each of said plurality of supply units to said reaction chamber.

25. A microchip according to Claim 22, further comprising a flow controller disposed between one of said plurality of supply units and said common flow pass.

26. A microchip according to Claim 25, wherein said flow controller comprises a micro valve.

27. A microchip according to Claim 25, wherein said flow controller comprises a micro pump.

28. A microchip, comprising:

a plurality of supply units capable of supplying a plurality of fluids for reaction;

a reaction chamber for containing said reaction;

a common flow pass connected to said reaction chamber;

5 a plurality of branch flow passes respectively connecting said plurality of supply units to said common flow pass;

wherein said plurality of fluids reach said reaction chamber in a sequence based on the respective dimensions of each of said plurality of branch flow passes.

29. A microchip according to Claim 28, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative distances between each of said plurality of supply units and said reaction chamber.

30. A microchip according to Claim 28, wherein said sequence in which each of said plurality of fluids reach said reaction chamber is based on the relative lengths of each of said plurality of branch flow passes connecting each of said plurality of supply units to said common flow pass.

31. A microchip according to Claim 28, further comprising a flow controller disposed between one of said plurality of supply units and said common flow pass.

32. A microchip according to Claim 31, wherein said flow controller comprises a micro valve.

33. A microchip according to Claim 31, wherein said flow controller comprises a micro pump.

34. A method for performing a reaction in a microchip, comprising the steps of:
causing a first fluid to flow from a first supply unit, via a first branch flow pass, into a reaction chamber;

causing a second fluid to flow from a second supply unit, via a second branch flow
5 pass, into said reaction chamber;

causing a third fluid to flow from a third supply unit, via a third branch flow pass, into said reaction chamber;

wherein said first, second and third fluids reach said reaction chamber in a sequence based on the relative dimensions of each of said first, second, and third branch flow passes.

35. A method according to Claim 34, wherein a common flow pass connects said first, second, and third branch flow passes to said reaction chamber.

36. A method according to Claim 34, wherein said first, second, and third branch flow passes are directly connected to said reaction chamber.

37. A method according to Claim 34, further comprising the step of controlling a flow of fluid from one of said first, second, and third branch flow passes using a flow controller disposed between a respective one of said first, second, and third supply units and said reaction chamber.

38. A method according to Claim 37, wherein said flow controller comprises a micro valve.

39. A method according to Claim 37, wherein said flow controller comprises a micro pump.